

1860.

BOROUGH OF CARDIFF.

THE
SEVENTH ANNUAL REPORT

ON

Sanitary Condition of Cardiff.

[for the year 1859]

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OFFICER OF HEALTH.

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CARDIFF:

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THE
Seventh Annual Report
ON
SANITARY CONDITION OF CARDIFF.

To the Cardiff Local Board of Health.

CARDIFF, February, 1860.

GENTLEMEN,

I HAVE to day to direct your attention to the sanitary condition of Cardiff, as evidenced by its mortality during the year 1859.

In my last annual report, I drew your notice to the circumstance that a diminution in your population had taken place in the year 1858, and I attributed that diminution to the effect of two probable causes, namely, a depression in the commercial interests of this port, and the progressive construction of large dock and railway works in the neighbourhood, thus diverting the residences of the labourers employed in such localities from the town to their labour fields, especially as great and rapidly increasing house accommodation was being there afforded them. These causes still operate, as I find a further diminution in the number of registered births in 1859.

This *prima facie* would appear to differ from the published reports of the Registrar General; but the apparent discrepancy arises from the circumstance that the Registrar General's reports refer to the number of births of the whole Cardiff Union, and is not confined to the town; thus in reality confirming the inference I draw, that there has been a migration from the town district into the rural sub-districts of Cardiff,—I mean Penarth, Canton, and Roath.

The births registered in Cardiff during the three years ending December, 1859, respectively are as follows: in 1857

there were 1,367, in 1858 they fell to 1,356, and in 1859 they were still further reduced to 1,336.

Of the 1,336 births registered in 1859, 18 were double births, and 48 were registered as illegitimate. I allude to the latter circumstance, as in a social point of view great advantage is to be derived from an improvement in the regulation of the dwellings of the labouring classes in Cardiff. In the visitations which I am constantly making as your Health Officer, I have frequently to remonstrate with the landlords of the common lodging houses, as to the manner in which the rooms are let out. It is by no means uncommon to find three or four beds in the same room; one or two occupied by married couples, others by families, many of the children grown up.

The ordinary residential population of Cardiff, if estimated by the number of births, would appear to be 33,500; to these may be added 3,500 seamen constantly in the port. The population of Cardiff contributing to our death tables may therefore be considered 37,000.

To protect these 37,000 inhabitants from the various causes likely to operate prejudicially on their health or lives, is the especial province of a Board of Health. In the discharge of such a duty, you have caused several streets, previously in an unfinished state, to be pitched and channelled; nearly the whole of the south or Bute Dock district may be said to be completed, and a considerable progress has been made in the Newtown district; a large extent of house property has also been drained into your main sewers.

Your Inspector of Lodging Houses has reported to me the results of 9,548 night visits and 14,726 day visits; in these reports he has to notify, on the occasion of his visiting by night, the number of inmates of each house, and the occupants of each room; he visits from 25 to 30 houses nightly. At his day visits, he has to report the general condition of the house, its cleanliness, its ventilation, and the arrangement of the beds; whether the bedrooms are occupied during the day, and if there is any sickness in the house. If necessary, he gives verbal directions to cleanse or wash the floors, limewash the walls, and if, upon examining the back yards, he discovers any nuisances, to require their removal; at his next visit, if he finds these instructions are not carried out, the circumstance is reported to me, and in the then event of a non-compliance, a notice in accordance with the forms required by the Health of Towns Act is served on the occupier or owner; and I can with satis-

faction report to you, that the occasions are rare in which these instructions are disobeyed, and thus is prevented the necessity of applying to your Board for that assistance which I so frequently had to do in the earlier tenure of my office.

I am enabled on this occasion to report very favourably on the internal condition of the lodging houses. They present a very cleanly and wholesome appearance; the improved ventilation enforced on the bedrooms has, I believe, operated very favourably on the health of the inmates. Strumous ophthalmia, at one time a frequent disease among the Irish residents of this town, is now of rare occurrence; and there are fewer applicants for relief at your Board of Guardians on account of this formidable cause of blindness than formerly. And I look with great confidence to a future improvement in the rate of infant mortality, as caused by another fertile contributor to constitutional sickness and death,—I mean convulsions and hydrocephalus, too often the result of a strumous diathesis, engendered and fostered by the vitiated atmosphere of an over-crowded lodging house. It is owing to the poisoned atmosphere of the dwellings of our poorer inhabitants of town districts, that the mortality of children under five years of age rises from 30 per cent. on total deaths in rural districts, to 50 per cent., the commonly frequent rate of infant mortality of large cities.

The number of houses coming under the denomination of common lodging houses in this town, is about 300. In the Newtown district, on the south side of the South Wales Railway, about 150 are to be found in five streets. These are occupied by Irish labourers and mendicants; they require a constant supervision; any interruption to this, even for a few days, causes a relapse into their former dirty and unhealthy condition.

But while I am enabled to report on the improved condition of the interior of the dwellings of the labouring classes, I regret to have to observe that the backlets in many of the houses still continue in a very unsatisfactory state, especially in the Newtown district and some of the streets at the Docks: the backlets of Evelyn-street are very bad. The difficulty of maintaining the backlets in anything like a proper sanitary condition, arises from the circumstance that the yards have never been properly levelled, or put into a finished state since the houses have been built. At the time when the houses were in course of erection, in the Newtown

district, house accommodation was in great demand, and they were frequently let ere the rooms were in a fit state to receive occupants ; as a consequence, the owners were careless as to the state of the yards. In many of them there has been no provision made for carrying off the surface water, which, remaining in a stagnant, offensive state, causes all manner of nuisances and vegetable matter to be thrown over the surface ; in fact, these yards are in the same condition that the streets used to be, which were constantly brought before your notice, and which have been remedied by the active means adopted by your Board for the last two years, in causing them to be channelled and pitched, measures which I can with confidence affirm, have exercised a most marked improvement in the sanitary condition of the inhabitants of the district.

The meteorological influences may be described as follows :—the winter quarter was unusually mild, and the fall of rain below the average ; these two causes possibly exercised an unfavourable influence on the public health, by predisposing the individual to febrile attacks, as we find that, of the 42 deaths from fever during the year, 24, or more than half, occurred during the first four months. A slight increase above the average temperature ruled the spring quarter ; but in April there were some very cold days, the winds from the E. N. E. prevailing ; the rainfall was also in excess of average. The summer quarter was unusually hot, especially in July, the thermometer ranging frequently from 90 upwards in the shade, when some increase of gastric fever occurred, and an increase in deaths from diarrhoea. Of the 16 deaths from this disease in 1859, 9 took place in July and August ; a like mortality from diarrhoea was observed through the whole of the kingdom. The Registrar General in his report for the summer quarter says, “The deaths in London during the quarter exceeded the average. The high temperature facilitated the decomposition of the impure refuse under the houses, in the streets, and in the river. Diarrhoea was unusually fatal all over the London area.” And I can, while quoting this extract, refer you to my remarks on the condition of the backlets of the localities I just now spoke of, and the probable effect on the public health when meteorological influences operate on causes which it is the imposed duty of a sanitary board to remove. The autumn quarter presented great variations of temperature : the latter part of October was cold ; the early days of November warm ; about the 9th, the temper-

ature became cold, the thermometer fell many degrees below the freezing point, some days down to 10 degrees; the weather continued more or less cold until the third week of December, when it changed to mild, and continued so until the end of the year.

I have now to direct your attention to the mortality of Cardiff during the year 1859. The number of deaths registered being 826; during the same period 1336 births were registered; or an excess of 510 births over deaths.

The following table illustrates certain specialities with reference to births and deaths, during ten consecutive years ending 1859:—

TABLE I.

Years.	Total Births.	Total Deaths.	Excess of Births over Deaths.	Classification of Deaths.			Estimated Population.	Proportionate rate of deaths to every 1,000 inhabitants
				Deaths from Sporadic Disease.	Deaths from Zymotic Disease.	Per centage of deaths from zymotic to total dths.		
1850	504	495	9	345	117	23.63	16,000	30.94
1851	575	525	50	378	102	19.43	18,351	28.61
1852	696	642	54	407	205	31.93	21,500	29.86
1853	865	644	221	445	139	21.58	24,000	26.85
1854	950	925	25	507	358	38.70	26,500	34.90
1855	1079	641	438	512	71	11.07	29,500	21.73
1856	1227	772	455	557	140	18.13	34,923	22.10
1857	1367	833	534	583	234	28.09	38,000	21.92
1858	1356	744	612	616	128	17.20	37,000	20.11
1859	1336	826	510	614	212	25.66	37,000	22.32

In 1854 occurred the cholera visitation; in 1857, small pox; and in 1859, scarlatina.

This table demonstrates a very fair average, and by dividing the table into two periods, each of five years, it will denote the real and progressive sanitary condition of the town since 1849, when sanitary provisions were first (with anything like energy) commenced, as may be seen below:—

TABLE II.

	Total deaths in each Cycle.	Deaths from Zymotic causes in each Cycle.	Per centage of deaths from zymotic to total deaths.	Average deaths in each Cycle.	Average Population.	Average deaths to every 1000 inhabitants.
Cycle of five years, ending 1854....	3,231	921	28.50	646	21,270	30.37
Cycle of five years, ending 1859....	3,816	785	20.57	763	35,284	21.62

It may be observed that the comparative rate of mortality during the two periods will not furnish a criterion on which to form a just estimate, inasmuch as during 1854 cholera alone caused a mortality of 175, and its concomitant disease, dysentery, 21 deaths, making a total of 196 deaths from that epidemic; but to place against this fortunately unusual visitation, the town suffered in 1857 from small pox, producing a mortality of 161, and in 1859 from scarlatina, which was fatal in 87 instances, making a total aggregate of 248; the minor epidemic visitation in either cycle being relatively about equal. We may, therefore, legitimately consider that, dividing the cycle of ten years into two lesser cycles of five years each, the recent cycle may justly and with advantage be contrasted with the earlier cycle, and will demonstrate the value to be attached to sanitary legislation.

According to this analysis, the average yearly mortality on first five years being 30·37 per thousand, and on last five years 21·62, there are $8\frac{1}{2}$ per thousand less deaths during the later period, so that assuming the average population to be 35,000, above 297 more deaths yearly would have occurred, had our rate of mortality continued as high as on the first period.

According to the returns of the Registrar General, in 125 districts and 23 sub-districts, comprising the chief towns of England and Wales, the rate of mortality during the year has been 2·380 per cent., or 23·80 per thousand. In the remaining districts and sub-districts, comprising chiefly small towns and country parishes, the mortality was 2·097 per cent., or 20·97 per thousand; in Cardiff, during the year, on the estimated population it has been 2·232 per cent., or 22·32 per thousand.

The respective rank of the 826 deaths was as follows :—

Gentry and their families	6
Professionals and their families	7
Tradesmen and their families, 1st class	38
Ditto, ditto, 2nd class	113
Writing clerks and their families	10
Mechanics, journey tradesmen, and their families	229
Labourers and their families	334
Seamen and their families	79
Soldiers	10

Total 826

The following table furnishes an analysis of the several causes of death :—

TABLE III.—CAUSES OF DEATH FOR SIX YEARS.

DISEASE.		1854.	1855.	1856.	1857.	1858.	1859.	
SPORADIC DISEASES OF KNOWN SEAT.	Disease of Brain and Nervous System.	Convulsions	81	82	93	111	75	101
		Inflammation & Dis. Brain	13	13	17	21	15	19
		Apoplexy	1	3	2	9	1	14
		Paralysis	6	6	3	8	4	6
		Epilepsy	3	5	6	11	5	3
		Delirium Tremens	2	5	0	3	3	1
		Insanity	0	1	1	0	0	0
		Hydrocephalus	8	10	8	16	19	7
		Diseased Spine	0	1	3	3	1	1
			—114	—126	—133	—182	—123	—152
Diseases of Respiratory Organs.	Phthisis	78	78	91	106	81	84	
	Bronchitis	14	51	39	30	21	15	
	Inflammation of Lungs ..	38	39	61	53	87	77	
	Pleurisy	0	0	1	0	2	2	
	Croup	8	13	15	10	19	12	
	Asthma	3	6	1	4	3	9	
	Hydrothorax	1	0	0	3	0	0	
	Empyema	0	1	0	0	0	0	
	Laryngitis	0	2	3	0	0	0	
		—142	—190	—202	—206	—213	—199	
Diseases of Regional Cavities.	Disease of Heart	6	11	13	9	27	14	
	Disease of Stomach	0	0	6	0	0	2	
	„ Liver	9	6	8	3	4	8	
	„ Bowels	19	9	15	15	23	12	
	„ Kidney	3	2	4	4	5	1	
	„ Bladder	0	1	0	3	0	0	
	„ Womb	1	0	1	1	0	0	
	„ Esophagus	0	2	0	0	3	1	
		—38	—31	—47	—35	—62	—38	
	Zymotic or Epidemic Diseases.	Fever Contd. and Typ. ...	18	10	15	20	19	42
„ Puerperal		5	6	2	6	4	9	
„ Scarlet		36	19	30	5	9	87	
„ Rheumatic		0	3	2	1	3	1	
„ Intermittent		0	2	2	1	0	0	
Measles		96	2	43	6	6	37	
Small Pox		1	0	0	161	8	0	
Whooping Cough		1	12	15	8	54	8	
Diarrhoea and Dysentery ..		26	17	25	21	16	16	
Cholera		175	0	4	1	0	0	
Erysipelas		0	0	2	3	4	0	
Diphtherite		0	0	0	1	5	12	
		—358	—71	—140	—234	—128	—212	
Sporadic Diseases, Uncertain Seat.	Anemia	0	0	0	0	0	1	
	Stomatitis	0	0	0	0	0	1	
	Phlegmon or Abscess ..	1	6	2	7	3	4	
	Serofula	6	9	4	0	2	9	
	Gangrene	1	6	1	3	1	2	
	Cancer	5	6	7	8	2	10	
	Syphilis	3	0	1	0	0	4	
	Hæmorrhage	3	0	0	1	3	2	
	Dropsy	14	9	14	8	10	10	
	Atrophy, Deb. & Mesentery	75	48	76	63	71	65	
	Hydrophobia	0	0	0	0	0	0	
	Hernia	1	0	1	4	3	1	
	Scorbutus	0	1	0	0	0	0	
	Teething	26	9	9	4	7	7	
	Exhaustion	0	0	3	0	3	0	
	Gout	0	0	1	1	0	1	
	Other Diseases	20	2	7	13	9	4	
	Tetanus	0	0	0	0	0	2	
	Tubes	0	0	0	0	0	1	
	Disordered Joint	0	0	0	0	0	1	
		—155	—66	126	—112	—114	—125	
Age	34	44	24	19	38	19		
Unknown	23	25	23	25	16	15		
Accidents	2	0	2	4	2	10		
Inquests	60	58	75	66	58	56		
Total		925	641	772	883	744	826	

Among the first class, or the group in which death is registered from diseases acting on the brain and nervous system, there are two especially interesting to you as a sanitary board, viz. hydrocephalus, which terminated fatally in 7 cases; convulsions in 101; and to these should be added a third from another class, namely, teething, fatal in 7 instances, making a total of 115 deaths out of 826. These are diseases more fatal in towns than in rural districts, from certain causes operating so as to produce a cachectic condition of system predisposed to suffer from these diseases, namely, a vitiated atmosphere from either an overcrowded or ill-ventilated room, from the innutritious food of a large proportion of the inhabitants of a town population, and from the want of care and warm clothing which are too frequently found existing in the families of the working classes. In Cardiff, the proportion of deaths from these causes to the total population is about 3.10 per thousand; in Liverpool, it has been found 3.38; in Merthyr, it is 4.24; in Bristol, it is only 1.70.

To obviate the ill effects of the crowded lodging houses requires the constant supervision of the inspector; and I believe, taking into consideration the high rent of inferior houses in Cardiff, necessitating to some extent the subletting of apartments, there are now few towns where the rooms of the lowest class of labourer are better ventilated, while the overcrowding is certainly considerably diminished in comparison with what it used to be. I am, therefore, disposed to consider that the high rate of mortality from these diseases is not to be unduly referred to that cause, but rather to the ill fed, ill clothed, and I may almost say ill cared-for child of the large mendicant Irish population, a population closely allied to that of Liverpool, where the death rates from these causes are nearly the same. The mining occupation of the labouring classes of Merthyr, interfering with the parental care of the children, may account for the higher rate in that town.

In pulmonary diseases, we have a lesser rate of mortality than the average rate of England and Wales, that being 6.75; while in Cardiff it is only 5.37 per thousand.

In the next class, or that of deaths from regional organs, there is nothing to call for observation.

In the zymotic class, the mortuary returns do not bear a favourable comparison with last year. In this class scarlatina has been fatal in the large number of 87 cases. The same epidemic was reported by the Registrar General as

being very prevalent and fatal throughout the kingdom. In Cardiff, its greatest severity was experienced from March until September; in March, 12 deaths from scarlatina were registered, in April 16, in May they declined to 8, maintaining that average until October; no deaths were registered from scarlatina in November, and only 4 in December. Measles also produced a considerable mortality, being fatal during the early part of the year, but no deaths from that disease have been registered since July. These are diseases incidental to childhood, and must be experienced at intervals. When prevalent, I endeavoured to combat the severity of the two epidemics by enforcing cleanliness; when the weather permitted, increased ventilation, and reducing the number of inmates of the lodging houses. I believe I witnessed very favourable results from the employment of McDougal's disinfecting powders; it is a very inexpensive remedy. In scarlatina visitations I recommended dissolving a certain quantity of the powder in water, and washing the floors with it, also at times sprinkling the room. The chlorine evolved in the course of evaporation exercised a favourable influence on the scarlatina sore throat.

Fever was fatal in 42 cases; 39 of these deaths took place during the first eight months of the year, the highest mortality being in February and March. The deaths occurred in the localities and under the circumstances described in Table IV. (p. 12.)

Of these, 11, or about one fourth, died under four years of age, and may be considered rather causes of infantile fever from teething, or other derangements incidental to childhood, than typhoid. The deaths from fever, in the Union, were cases sent into the workhouse while labouring under sickness; some from the rural districts. Only two deaths are registered among the Irish resident in the Newtown district, namely, one in Ellen Street and one in Tyndal Street. In no instance did the disease assume any infectious or contagious character; and probably the cases may have originated purely from sporadic causes.

Measles were fatal in 37 instances, diarrhoea in 12. Of these, 9 were under the age of one year, and 1 under two. These are evidently cases of infantile diarrhoea. The remaining two were above seventy-five years of age.

TABLE IV

Locality.	0	1 year.	2 years.	3 years.	4 years.	5 years.	10 years.	15 years.	25 years.	35 years.	45 years.	55 years.	65 years.	TOTAL.	General condition of Locality.
Infirmary	-	-	-	-	-	-	-	1	-	-	-	-	-	1	Drainage described as bad.
Love-lane	1	-	-	-	-	-	-	-	-	-	-	-	-	1	Backlets in indifferent condition, houses clean.
Frederick-street ..	-	-	-	-	-	-	-	-	1	-	-	-	-	1	Houses and locality good.
St. Mary-street ..	-	-	-	-	-	-	-	1	-	-	1	-	-	2	Ditto ditto.
Sophia-street ..	-	-	-	1	-	-	-	-	1	-	-	-	-	2	Ditto ditto.
The Hayes	-	-	-	-	-	-	-	-	1	-	-	-	-	1	Locality in an indifferent sanitary state.
Bute-street	-	-	-	1	-	-	-	-	1	-	-	-	-	2	Houses and locality good.
Union	-	-	-	-	-	-	-	2	-	2	-	-	-	4	Ditto ditto.
Louisa-street	-	-	-	-	-	-	1	-	-	-	-	-	-	1	Houses and locality tolerably good.
Jenkin's-court	-	-	-	-	-	-	1	-	-	-	-	-	-	1	Not in good sanitary condition.
Adam-street	-	-	-	-	-	-	-	-	1	-	-	-	-	1	Houses and locality good.
Station-terrace ..	-	-	-	-	-	1	-	-	-	-	-	-	-	1	Ditto ditto.
Old Canal	-	-	-	1	-	2	-	-	-	-	-	-	-	3	Some parts in indifferent condition.
Lightburn-terrace ..	-	-	-	-	-	-	-	1	-	-	-	-	-	1	Houses and locality good.
Union-buildings ..	-	-	-	-	-	-	-	-	1	-	-	-	1	2	Houses and locality bad.
Plucca-lane	-	1	-	-	-	-	-	-	-	-	-	-	-	1	Until recently, badly drained.
Bridge-street	-	-	-	-	-	1	-	-	-	-	-	-	-	1	Houses and locality clean.
Alice-street ...	1	1	-	-	-	-	-	-	-	-	-	-	-	2	Houses and locality good.
Tabernaacle-court ..	-	-	-	1	-	-	-	-	-	-	-	-	-	1	Ditto ditto.
Davies-street	-	1	-	-	-	-	-	-	1	-	-	-	-	2	Ditto ditto.
Crockherbtown	-	-	-	-	-	-	-	-	1	-	-	-	-	1	Ditto ditto.
Nelson-terrace	-	-	-	-	-	-	1	-	-	-	-	-	-	1	Lane behind houses offensive, until recently.
Ellen-street	-	-	-	-	-	1	-	-	-	-	-	-	-	1	Backlets of houses bad, houses clean.
Tyndal-street	-	-	-	-	-	-	-	-	-	-	1	-	-	1	Backlets of houses bad, houses tolerable.
Womanby-street ..	-	-	-	-	-	-	-	-	-	1	-	-	-	1	Houses clean, locality indifferent.
Edward-street	-	-	-	-	-	-	-	-	1	-	-	-	-	1	House clean, streets require to be improved.
Mill-lane	-	-	-	-	-	1	-	-	-	-	-	-	1	2	Houses and locality indifferent.
Cowbridge-road	-	-	-	-	-	1	-	-	-	-	-	-	-	1	Houses and locality good.
Francis-street	-	1	-	-	-	-	-	-	-	-	-	-	-	1	Ditto ditto.
Mary Ann-street ..	-	-	-	1	-	-	-	-	-	-	-	-	-	1	Houses clean, backlets indifferent.
	2	4	-	5	-	7	2	6	6	5	2	1	2	42	

12 deaths have been registered from diphtheria ; these were as under :—

TABLE V.
DEATHS FROM DIPHTHERIA.

Date.	Locality.	Sex.	Age.	Duration of Sickness.	Condition of Locality.
February 17.	George-street ..	Female.	2 mths.	2 days	Good.
March 29 ..	Queen-street ..	Male ..	9 mths.	12 days	Good but confined
April 15	Frederick-street..	Female.	22 mths.	16 days	Good.
" 16	Ditto ..	Male ..	23 mths.	7 days	Good.
May 17 ...	Plucca-lane	Male ..	2 years.	.....	Indifferent.
" 26	Nelson-street ..	Female.	29 mths.	7 days	Indifferent.
July 4 ...	Grange-terrace ..	Male ..	8 years.	2 days	Indifferent.
" 25 ..	James-street ..	Male ..	10 years.	.....	Good.
" 28	Castle-street....	Female.	3 years.	.....	Good.
August 22 ..	Wharton-street ..	Female.	5 years.	10 days	Good.
October 18 ..	Adelaide-street..	Female.	2 years.	.....	Good.
December 21.	42, South Wm.-st.	Male ..	2 years.	.....	Good.

The disease was scattered in isolated places over the town. No family lost more than one member, and in only one street did two deaths occur. At that time scarlatina was very fatal in Frederick-street. Compared with the mortality from diphtheria in other towns, its mortality was very small. No deaths from it were registered among the lodging houses; and as this disease, from the experience of the profession in towns where it has produced a large mortality, is aggravated by the ordinary excitants of zymotic disease, it corroborates the advantages derived from sanitary supervision. No deaths from small pox have been registered during the year.

39 deaths were registered of illegitimate births. The mortality among illegitimate children must therefore be very great, or the parents evade the registration of the births.

15 deaths have been registered, where no medical certificate was given stating cause of death, the informant being unable to assign the cause. 71 other registrations had no medical certificate, the cause of death being assigned by the informants. It would be highly desirable, if power should be given to the registrar to refuse registration until satisfactory evidence could be given as to the probable cause of death; as the large proportion of 86 deaths out of 826, without medical evidence of the cause, can but naturally diminish the value of the registration in a scientific point of view, while it may become a question in jurisprudence, whether, this evidence being imperative, crime might be diminished. The instructions given to Medical Officers of Health, as issued by the General Board, provide as follows:—"In cases where there is no medical certificate, or where, from anything that appears, the deceased died without any regular medical attendant, it shall be the duty of the Officer of Health to examine into and determine, as closely as he may, the cause as well as the fact of the death."

There were 56 inquests registered during the year, being a lesser number than during the last seven years. The analysis is as follows:—

TABLE VI.

VERDICTS.	0	1 year.	2 years.	3 years.	4 years.	5 years.	10 years.	15 years.	25 years.	35 years.	45 years.	55 years.	65 years.	Total Deaths
Injuries	1	1	-	1	1	2	-	6	5	-	4	-	-	21
Burnt	-	-	1	-	-	-	-	-	-	-	-	-	-	1
Found dead	-	-	-	-	-	-	-	1	-	1	-	1	-	3
Natural causes .. .	1	-	-	-	-	-	-	-	2	1	3	-	-	9
Accidentally drowned ..	-	-	-	-	1	-	-	1	2	3	-	-	-	7
Found drowned	-	-	-	-	-	2	-	3	6	-	1	-	-	12
Murder	1	-	-	-	-	-	-	1	-	-	-	-	-	2
Manslaughter	-	-	-	-	-	-	-	-	1	-	-	-	-	1
	3	1	1	1	2	4	-	12	16	5	8	1	2	56

Of these, 47 were males, and 9 females ; 5 of the deaths from injuries, were occasioned by the explosion of a vessel ; 2 deaths from same cause, registered without inquest. The two cases registered as by murder were, one a newly born male child, offender not discovered, the other a seaman ; the accused was acquitted of murder at assizes, but found guilty of manslaughter. The manslaughter case was a woman supposed to have been killed by her husband. The magistrates in their investigation committed a woman also for the offence ; at the assizes the grand jury ignored the bill against the husband ; the woman was tried and found guilty.

The deaths at age from all causes are analyzed in the following table :

TABLE VII.

AGE.	Males.	Females.	Total.	Death Ages at Inqsts.	Grand Total.
Under 1 year	123	107	230	3	233
1 and under 2	58	44	102	1	103
2 " 3	27	30	57	1	58
3 " 4	17	21	38	1	39
4 " 5	11	10	21	2	23
5 " 10	19	17	36	4	40
10 " 15	8	6	14	0	14
15 " 25	25	27	52	12	64
25 " 35	26	28	54	16	70
35 " 45	26	23	49	5	54
45 " 55	26	14	40	8	48
55 " 65	21	11	32	1	33
65 " 75	15	9	24	2	26
75 " 85	3	11	14	0	14
85 " 95	2	4	6	0	6
95 and upwards	0	1	1	0	1
	407	363	770	56	826

The large proportion of 55 per cent. deaths under five years to total deaths, is to be accounted for from circumstances detailed in the earlier part of this report, namely, an unusual number of the lowest class of Irish labourers, who, from their circumstances, are unable to provide the proper nurture and food calculated to protect infantile life; hence, as alluded to in former reports, the great mortality registered from atrophy, mesenteric disease, and convulsions. I believe immense saving of life among children in the lowest class of labourers in Cardiff might be effected by a system of house visitation; increased clothing of a sufficiently warm description might be afforded at a very trifling tax on the charitable. It would be assisted materially by an increased cleanliness, the natural result of such a visitation, by an indisposition to allow the house and children to appear dirty when those who had the means and disposition to award comfort and assistance visited them. With cleanliness, moral and social improvement would follow, and much of that vice and misery complained of in Cardiff would disappear, as it has done in other places.

Having detailed at some length the immediate cause of death in the several cases registered in Cardiff during 1859, I have now to direct your attention to the probable effect of the various circumstances, which, in a town population, predispose its inhabitants to disease, which swell its death rate, and make it contrast so unfavourably with a rural district. But before I do this, in order that you may recognize the necessity of continuing those sanitary precautions and improvements which have been so eminently successful in Cardiff during the last few years, I would observe that not alone while death is devastating a population during an epidemic visitation, are you to promote sanitary supervision, or enforce sanitary precautions; it may even become a matter for consideration, whether increased or excessive activity at such a time, is not calculated in some degree to exercise an unfavourable influence, by alarming the public mind, and so rendering, in some cases, a state of nervous anxiety, which may predispose to individual susceptibility of disease. But it is at all times necessary to enforce such measures, where the peculiarity of the district and the class of population require constant supervision; and a reference to page 8, where the rank of the several deaths is tabulated, must force the fact upon the mind, that in no district are these two circumstances more prominent than in Cardiff.

The public attention which of late has been directed to sanitary measures, would render it hardly necessary to direct your attention to the mortality of a town, ill-regulated, during epidemic visitation; and I refer to the fever visitation of 1846, the dysenteric epidemic of 1848, and the cholera of 1849 and 1854, diseases which produced an excessive mortality at those times in Cardiff, only to remind you that if an improved sanitary condition has necessitated a heavy cost, such visitations as these press heavily on the working classes, are fatal in the adult period of life, when the individual is contributing to the industrious prosperity of the country and the support of those dependent upon him; and when death removes him, necessitates a burthen on your poor's rates. I would instance one return made to Mr. Rammel, in 1848: of the 304 cases relieved by the parish of St. Mary, 99 were on account of fever and dysentery; in the parish of St. John, 49 out of 126. There were being relieved at that time in the workhouse, 1 widow and 26 orphans, and 30 widows and 102 children receiving out-door relief. This return was obtained previous to the cholera visitation, which destroyed 383 lives, many of whom were the heads of families, and added a large number to the recipients of parochial relief.

The death returns which have been quoted in this report, show a very important diminution in the number of deaths referable to zymotic disease. The large diminution in your death rate during the last ten years, as described in Table II. page 7, can but satisfactorily evidence the saving of life and parochial burthen. But Table III. shows that there is still considerable improvement to be effected in the sanitary condition of this town. Convulsions have contributed 101 deaths; phthisis 87; atrophy, mesenteric disease, and debility, 65. These are diseases essentially of a strumous or tubercular type. Mr. Simon, formerly Officer of Health to the city of London, and now Medical Officer to the General Board of Health, who has devoted almost exclusively the energies of his scientific mind to sanitary matters, states in his introductory remarks (page xxiv) to Dr. Greenhow's paper relating to the sanitary state of the people of England, that "Removable causes have notoriously in many cases so much to do with the increase of tubercular disease, that it at least deserves patient inquiry whether the development of phthisis among men and women be an appanage of their employment, or dependent on defective ventilation and other removable accidents of the

system." The commissioners appointed to inquire into the sanitary condition of the army argue, "That in civil life, insufficient clothing, insufficient and unwholesome food, sedentary and unwholesome occupations, the vitiated atmosphere of unhealthy dwellings, all contribute to the propagation of these diseases;" and Dr. Watson states that there is most reason for believing that impure air is a very powerful agent in calling scrofula into action, and developing the strumous diathesis.

It is to prevent such condition of atmosphere I now enumerate the probable excitant causes of disease, as existing at the present time in Cardiff, all removable, and to overcome which has been my aim since I have exercised the duties of your Officer of Health.

The overcrowded condition of the common lodging houses has been met with great activity, and although, from the excessively high house rent, some forbearance has necessarily been exhibited towards the lodging house keeper, this has been done only when a certain amount of cleanliness and ventilation have been exhibited, and when it can be done with safety. The absence of fever in this class of house for some time, has testified very satisfactorily to the improved condition of the dwellings of the poor.

The backlets of the houses in many of the streets in Newtown, especially Ellen-street, William-street, Thomas-street, and Tyndal Street, still continue bad, and require remedial measures to be adopted to remove the putrescent matter scattered over their surface, and to prevent the recurrence of this evil. The unfinished state of these backlets renders it almost impossible to keep them in anything like wholesome condition. The large quantity of stagnant water retained on the surface, invites the inmates to discharge all manner of abomination into it; and although I am constantly requiring it to be removed, it soon relapses into its previous filthy state. It would be very desirable that the owners of these houses should level the backlets, and cover them with asphalt; this would be a very effectual and inexpensive remedy. I have also to call your attention to the practice of keeping animals in sheds erected on the areas behind these dwelling houses. The nuisances just described, exist to a great degree, not only in Newtown, but in Evelyn-street, also in Frederica-street, and Christina-street, Bute Docks, behind some of the houses on the eastern side of Rodney-street, and behind the

houses on the eastern and western side of Love-lane. I have repeatedly remonstrated with the occupiers, in some instances with little success. It would be very desirable the attention of the Inspector of Nuisances should be directed to these evils, and, if they are not abated, that he should take proceedings against the offenders.

I have also to call your attention to the circumstance that many houses are still without water closets. The Surveyor, some time back, ordered water closets to be made in two houses on the Tunnel; but I considered the construction of these, in the only available part of these small houses, which consist only of a small living-room and bed-room, without any through ventilation or backlet, would but aggravate the evil. I recommend that the owner should endeavour to arrange with the owners of adjoining property, to erect water closets common to the occupiers of these and the adjoining houses, some of which have highly objectionable water closets; if this cannot be done, it will be my duty, agreeable to your bye-laws, to certify that they are not fit for habitation.

A very considerable improvement has been effected in the condition of the various courts in different parts of the town. On my recent inspection, there were but few requiring alteration. The Golate requires pitching; sewers from the adjoining hotel have been allowed to pour out their contents over the surface; at the bottom, a large amount of stable ordure is scattered over the surface of the yards. Evans's-court in the Hayes, Rising Sun-court, a court between Pellet-street and Duffryn-street, Prichard's-court, Jenkins's-court, Millicent-street, and the roadway leading from the Hayes to Green-gardens, are all in a bad sanitary condition, requiring pitching or paving. The court between Pellet-street and Duffryn-street has in its centre, sunken pavement; the soakings from the adjoining water-closets frequently run over this, and are retained there; this should be raised to the adjoining levels.

The channelling in Whitmore-lane, from its inequality, retains the waste-water thrown from the adjoining houses, and is at times very offensive.

I have had occasion to require the abandonment of certain noxious trades: that of keeping large stores of salt fish in lodging houses, was a serious evil. These stores emitted a most nauseating smell, portions of the fish being in a putrescent state. I served notices on the occupiers, and the nuisance has been abated. The tallow melting brought before your notice, has also been discontinued.

I have also to urge on your Board the desirability of endeavouring to procure a water supply to flush the water-closets of the houses of the labouring classes ; as in their present condition in Newtown, and other parts of Cardiff, the advent of epidemic disease would be attended with serious mortality.

In concluding my detail of the specialities connected with the mortality and sickness of Cardiff, it is gratifying to me to report the willing acquiescence evinced by the poorer classes to all suggestions made by me to them. I have reason to believe they fully recognize the objects I have in view, to promote health and save life ; and never are the suggestions I make, more readily adopted, than when infectious or contagious diseases are prevalent among them.

I have the honour to be,

GENTLEMEN,

Your obedient Servant,

H. J. PAINE,

OFFICER OF HEALTH.